Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for performing multi-hop peer-to-peer telecommunications on a wireless network, which includes a plurality of radio terminals that can conduct mutual communication within a prescribed covered area, and topology of which ~~changes~~ can change moment by ~~moment and,~~ moment, comprising the steps in which:

each radio terminal exchanges ~~the~~ a link state with other radio terminals ~~capable of direct communications (said link state including only information on radio terminals within a predetermined number of hops),~~ within said prescribed covered area, and constructs a routing table based on the exchanged link state;

a source routing demand packet is prepared including a routing stack for storing intermediate routing information therefor whenever said source routing demand ~~the~~ packet passes through the terminals;

a sender terminal ~~designates~~ includes identification information on a destination terminal in said source routing demand packet and ~~to broadcast~~ multicasts said source routing demand packet to all radio terminals in the prescribed covered area;

the radio terminals on ~~the route, which receive said packet,~~ a route of said source routing demand packet write the intermediate routing information to said routing stack while ~~transferring~~ multicasting said source routing demand packet to all radio terminals within said prescribed covered area based on said routing table;

the destination terminal which receives said source routing demand packet unicasts ~~returns~~ said source routing demand packet to said sender terminal through the route followed by said source routing demand packet based on information in said routing ~~stack;~~ stack included in said source routing demand packet; and

-2-

said sender ~~terminal~~ terminal, which receives said <u>source routing demand</u> packet <u>unicasted by said destination terminal,</u> unicasts a message to said destination terminal through the radio terminals on said route <u>followed by said source routing demand packet</u> based on information in said routing stack included in said <u>source routing demand</u> packet.

2.   (Original) The method for performing multi-hop peer-to-peer telecommunications according to Claim 1, wherein said intermediate routing information includes the link ID and/or Identity showing the route; and said link ID and/or Identity is uniform among terminals which can communicate directly, but is not globally uniform.

3.   (Original) The method for performing multi-hop peer-to-peer telecommunications according to Claim 2 wherein a specific number and/or symbol is reserved as said link ID and/or Identity showing that said routing stack is empty.

4.   (Currently Amended) The method for performing multi-hop peer-to-peer telecommunications according to Claim 1, wherein said destination terminal and/or said radio terminal in the route discovers that the link with the transfer partner included in said routing stack is cut in the route wherein said packet is returned to said sender terminal, at which time said destination terminal and/or said radio terminal ~~recontructs~~ <u>reconstructs</u> said routing stack.

5.   (Currently Amended) A telecommunications method for <u>a wireless network including</u> radio terminals <u>that can conduct mutual communication within a prescribed covered area,</u> ~~constituting a wireless network,~~ and comprising:

a routing table generating step, wherein <u>each radio terminal exchanges a</u> ~~the~~ link state ~~is exchanged~~ with <u>other</u> radio terminals <u>within said prescribed covered area,</u> ~~capable of direct communication (said link state including only information on radio terminals within a predetermined number of hops), and a routing table is constructed;~~ <u>and constructs a routing table based on the exchanged link state;</u>

a transfer step wherein ~~said~~ a packet is transferred <u>from a first radio terminal to</u> <u>another radio terminal</u> ~~to the prescribed terminal when the received packet is not addressed to~~ ~~itself,~~ based on ~~the~~ said ~~intermediate routing information in the routing stack included in said~~ ~~packet and the contents of said~~ routing table <u>if said packet is not addressed to said first radio</u> <u>terminal</u>;

a source routing demand packet transfer step wherein, when ~~the~~ said ~~received~~ packet is a source routing demand ~~packet and is broadcast, the~~ packet, intermediate routing information is written to ~~said~~ a routing stack included in said <u>source routing demand</u> packet ~~while transferring said packet~~ <u>and said source routing demand packet is multicast</u> to all radio terminals <u>within said prescribed covered area</u> based on said routing table; and

a source routing demand packet return step wherein, when ~~the received~~ said packet is a source routing demand packet and undergoes sendback unicast from ~~the~~ a destination terminal to ~~the~~ a sender terminal, said <u>source routing demand</u> packet is transferred to ~~the~~ a prescribed terminal based on the intermediate routing information in said routing stack included in said <u>source routing demand</u> packet and ~~the contents of~~ said routing table.

6. (Original) The telecommunications method for radio terminals according to Claim 5, wherein said routing table generating step comprises the steps of:

extracting information on the terminals within the predetermined hop range from a terminal's own routing table;

sending the extracted link state relating to the terminal to the partner terminal;

storing the link state received from said partner terminal to the terminal's own routing table; and

repeating the above steps after the passage of a prescribed period of time.

7. (Original) The telecommunications method for radio terminals according to Claim 5, wherein said source routing demand packet transfer step comprises the steps of:

storing route information within said packet;

storing the local link ID and/or Identity of a terminal in said routing stack;

moving the pointer of said routing stack; and

sending said packet to each terminal that is capable of direct communications.

8.   (Original) The telecommunications method for radio terminals according to Claim 5, wherein said source routing demand packet transfer step comprises a step for stopping the transfer process when said routing stack is full.

9.   (Original) The telecommunications method for radio terminals according to Claim 5, wherein said source routing demand packet return step comprises the steps of:

putting back the pointer of said routing stack;

retrieving the link ID and/or Identity from said routing stack; and

sending the packet to one terminal based on said link ID and/or Identity.

10.   (Original) The telecommunications method for radio terminals according to Claim 5, wherein said source routing demand packet return step includes a routing stack reconstruction step for reconstructing said routing stack when it is found that the link with the transfer party included in said routing stack has been cut.

11.   (Original) The telecommunications method for radio terminals according to Claim 10, wherein said routing stack reconstruction step comprises the steps of:

completely emptying said routing stack;

obtaining identification information on the sender terminal from said packet to create a packet including this; and

broadcasting the created packet.

12.   (Original) The telecommunications method for radio terminals according to Claim 5, further comprising the steps of:

generating a packet including identification information on the destination

terminal;

broadcasting the created packet;

receiving a packet including said routing stack from said destination terminal;

and

unicasting a packet to the destination terminal based on said routing stack.

13.   (Original) The telecommunications method for radio terminals according to

Claim 5, further comprising the steps of:

determining whether the received packet is a demand for source routing when

said packet is addressed to the terminal itself; and

unicasting said packet to the sender terminal based on said routing stack when

said packet is a demand for source routing.

14.   (Currently Amended) A medium for recording a program for causing a

processor to carry out a telecommunications method for radio terminals that can conduct

mutual communication within a prescribed covered area, constituting a wireless network,

wherein the program recorded in the medium causes the execution of said program at each

respective radio terminal, said method comprising:

a routing table generating step, wherein the each radio terminal exchanges a

link state is exchanged with other radio terminals capable of direct communication (said link

state including only information on radio terminals within a predetermined number of hops),

and a routing table is constructed;within said prescribed covered area, and constructs a

routing table based on the exchanged link state;

a transfer step wherein a first radio terminal in which the program is executed

transfers said a packet is transferred to another radio terminal the prescribed terminal based

on said routing table the intermediate routing information in the routing stack included in said

-6-

~~packet and the contents of said routing table, when the received~~ if said packet is not addressed to ~~itself;~~said first radio terminal in which the program is executed;

a source routing demand packet transfer step wherein, when ~~the received~~ said received packet is a source routing demand ~~packet~~ packet, ~~and is broadcast, the~~ intermediate routing information is written to ~~said~~ a routing stack included in said source routing demand packet, and said source routing demand packet is multicast ~~while transferring said packet~~ to all radio terminals in the prescribed covered area based on said routing table; and

a source routing demand packet return step wherein, when ~~the received~~said packet is a source routing demand packet and undergoes sendback unicast from ~~the sender~~a destination terminal to ~~the~~a sender terminal, said source routing demand packet is transferred to ~~the~~a prescribed terminal based on the intermediate routing information in said routing stack included in said source routing demand packet and ~~the contents of~~said routing table.